Energy

Increase Energy Efficiency in Buildings

Target(s):

Meet the Lincoln Electric System's projected demand growth through 2016 with sustainable generation and demand reduction resources.

Improve City of Lincoln energy efficiency of its municipal buildings by at least 20% by 2020, with 2012 as baseline.

Lincoln Now:

Because of the limited amount of nonrenewable energy sources on Earth, it is important to both reduce consumption of resources and substitute non-renewable resources with renewable ones, so that our natural resources will be available for future generations. At the local level, energy conservation saves money and energy which benefits both homeowners and businesses. Energy efficiency is the fastest, cheapest, and largest untapped solution for saving energy, saving money, and preventing greenhouse gas emissions. The costs to implement energy efficiency programs are typically only one-third the cost of building new energy generation resources, such as new power plants.

To remain competitive as the global economy expands and puts greater strain on traditional fuel supplies, energy costs rise, and supplies remain unpredictable, Lincoln is developing a variety of strategies to encourage energy conservation. The City of Lincoln has recently assessed its energy infrastructure and energy use by local sectors (transportation, residential, commercial, city government and industrial sectors). The result is a snapshot of energy being consumed at the point of use, related to how we live and how we get around. Transportation represents approximately 36% of the overall energy use in the community, Residential at 23%, Industrial at 20%, and Commercial at 15%. City Government is at 6% of the overall energy use.

The city-owned municipal utility Lincoln Electric System (LES) has led the local effort to help local ratepayers live and work in more energy efficient homes and businesses. LES provides energy rebates for investments in energy-saving devices through its "Sustainable Energy Program," for both residential and commercial customers. These investments include whole-house insulation, new high-efficient heat pumps, and commercial lighting. LES promotes this program as a way to help customers save money, reduce the system wide need for energy during more expensive peak periods of the year, and delay the necessity to build additional, high-cost power plants. Taking advantage of energy efficiencies also helps to keep rates for electricity in Lincoln among the lowest in the country.

In the first three years of the program, $5.1 million in incentives was available for distribution. LES estimates that the completed projects have resulted in nearly 10,000 kilowatts of demand savings and 33 million kilowatt-hours of energy savings, and approximately:

- $2 million in combined annual customer savings.
- $24.6 million in economic activity through the purchase of local energy-efficiency products and/or services from 2009-2011.
- 33,000 tons of avoided carbon dioxide emissions (equivalent to removing nearly 6,000 cars from the road).
- $16 million in avoided power plant construction costs, due to reduced customer energy demand.

In 2011, customer response to the Sustainable Energy Program was so strong that its $2 million in funds were reserved or paid in less than six months. Given the strong demand, LES committed $3 million in its 2012 budget to the SEP. In addition, in November, 2011, LES launched a new website, www.kilowattchers.org, promoting energy efficiency.

In December, 2011, the LES Administrative Board passed a resolution to meet LES' five-year projected energy demand growth with "sustainable generation" and "demand reduction resources." The LES administrative board recommended "a comprehensive approach to sustainability that includes a variety of strategies including, but not limited to, decreasing system demand through energy efficiency and conservation and investing in renewable energy projects." Under this plan, the projected growth in energy demand of 68 MW from 2011 through 2016 is targeted to be satisfied through a variety of conservation, efficiency, and renewable resource options and projected carbon dioxide emissions is targeted to be reduced by 435,000 tons. For example, it is projected that "demand reduction resources" such as heat pump replacements will reduce demand by 3.6 MW by 2016, and commercial lighting upgrades will reduce demand by 7 MW by 2016.

The City of Lincoln is also seeking to lower its own energy use and to be a "leader by example" in the community on energy saving. In 2012 the City joined the Environmental Protection Agency's Energy Star program as an official Energy Star Partner. The City committed to measuring and tracking the energy performance of its facilities through the Energy Star Portfolio Manager, and to realizing significant reductions in energy use in its buildings and facilities. As it improves the efficiency in its buildings, the City also plans to apply for Energy Star "Certifications" of its high-performing buildings. Buildings certified by the Energy Star program use on average about 35% less energy than comparable buildings.

These actions have been taken per Mayor Beutler's Executive Order 80968 (2008) which requires, among other things, that the "City of Lincoln shall make energy efficiency a priority within all city facilities, through a cooperative effort with Lancaster County and the Public Building Commission, by utilizing energy efficient lighting and urging employees to conserve energy wherever and whenever possible." EO 80968 also requires the City to "practice sustainable building practices, wherever possible, using the concepts in the U.S. Green Building Council's LEED program or a similar program for all new construction and renovations of existing city buildings." For example, the new Pinnacle Bank Arena has been designed and constructed to meet certification requirements as a LEED Silver building, as well as set for Energy Star certification.

In 2011, the City of Lincoln approved the use of the 2009 International Building Code for local construction, which includes the provisions of the 2009 International Energy Code (also now state law). These new code provisions will significantly increase the energy efficiencies for new buildings; previously, the City of Lincoln used 2003 International Energy Code requirements. During 2012, the City of Lincoln is conducting a review of the 2012 International Code updates for possible adoption.

In addition, through the Mayor's Cleaner Greener Lincoln initiative, the City has funded, through one-time American Recovery and Reinvestment Act grants, municipal lighting upgrades, LED traffic and street lights, energy saving improvements for hundreds of residential, commercial, and non-profit buildings (e.g. "reEnergize"), educational campaigns (e.g. "Lincoln Energy Challenge"), demonstrations of clean energy production, and the promotion of "green" building practices. These multi-million dollar investments, intended to complement and boost other local energy saving activities, are producing significant short and long-term energy savings throughout the City of Lincoln.